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THE BASIS OF this new system is an attractive black and silver metal cabinet with a 5 slot motherboard, system interface card with bus cable, and fuse protected 5 amp power supply.

A motherboard bus system is one in which a printed circuit board contains a number of parallel connectors. Optional capabilities are contained on cards which plug onto any of the open connectors.

Standard features include an ASCII keyboard interface, an independant audio amplifier, a socket for 1 to 4 K of ROM and 16 K of RAM. The front panel provides a master power switch, ON/OFF indicator lamp, expansion system reset and I/O status lights. The rear panel contains a 1 watt audio output, volume control, switched power output for the computer and provisions for inputs and outputs to existing and future options.

Optional equipment includes additional 16K Ram cards, system I/O card and an ASCII keyboard. The Ram cards are 4K bank selectable and two may be added to expand to 65K. The I/O card contains a 2400 Baud cassette interface, dual tape machine control, bi-directional 300 Baud RS-232 port and audio dubbing/recording capability. The keyboard features full ASCII character set, electronic upper case lock and indicator.

The system is compatible with the existing Basic and other software is currently being written to further enhance it's capabilities. Other option cards are also under development.

Specifications, prices and availability will be announced in coming issues of the ARCADIAN.

ALTERNATIVE ENGINEERING
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"VIPER" Memory Expansion System

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BACK ISSUES:
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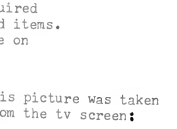
```
 3 .ARTILLERY DUEL
 4 .BY JOHN PERKINS
 10 :RETURN :FOR A=0TO 9:#(A)=0:NEXT A
 20 CLEAR :H=RND (50)-44:A=-80:T=RND (9):LINE A,H,4:I=H
 30 A=A+RND (10):H=H+RND (9)-T:IF H<-44H-44:T=4
 40 IF H>-10T=6
 50 T=T+(T>5)b2-RND (3)+1:IF A>70A=79
 60 LINE A,H,1:IF A#79GOTO 30
 70 H=I:H=RND (5)-26
 80 FOR W=-80TO 79:LINE A,-44,4:IF PX(A,H)GOTO 120
 90 FOR Y=1TO 60:IF PX(A,H+Y)H=H+Y:GOTO 120
 100 IF (PX(A,H-Y)=0)+(H-Y<-44)NEXT Y
 110 H=H-Y
 120 LINE A,H,1:NEXT A:S=RND (2)b2-3:G=RND (3)+2
 130 FOR P=0TO 55TEP 5:X=RND (31)-75+(P=5)b120:FOR H=-44TO 20:IF PX(X,H)NEXT H
 140 Y=H+RND (5)-3:IF Y<-40Y=-40
 150 BOX X+(P=0)b4-2,Y+4,11,15,2:BOX X,Y,5,5,1:BOX X+(P=0)b2-1,Y-3,3,1,1
 160 LINE X,Y,4:LINE X+(P=0)b12-5,Y,1:#(P+1)=X:#(P+2)=Y:NEXT P
 170 P=(S=1)b5:C=Pc5+1
 180 FOR N=1TO 11:BOX #(P+1),#(P+2)+1,3,1,3:NEXT N:NT=1
 190 W=W+RND (9)-5:CX=-9:CY=40:PRINT "WIND";CX=-9:IF W TV-95+(W>0)b2
 200 PRINT #3,ABS(W)
 210 CX=Sb51-22:CY=40:A=#(P+4):PRINT "ANGLE",#3,A
 220 CX=Sb51-22:B=#(P+3):PRINT "BAGS ",#1,Bc10,".",RM
 230 IF TR(C)GOTO 350
 240 K=(KN(C)+128)b5+(S#1)b255:IF ABS(K-E)<10GOTO 300
 250 E=K:R=Kc1b5:#(P+4)=A:CY=40:CX=Sb51+8:PRINT #3,A
 260 GOSUB 280:X=#(P+1):Y=#(P+2):LINE X-3b5,Y,4:BOX X-Sb5,Y+4,5,9,2
 270 K=Kc100:J=RM:LINE X-(3+Kc25)b5,Y+Jc25,1:GOTO 300
 280 GOSUB 580+Ab2b(A<45)+(90-A)b2b(A>40):IF A>45K=Kc100+RMb100
 290 RETURN
 300 IF JX(C)=0IF JY(C)=0GOTO 230
 310 B=B+JX(C)b10+JY(C):IF B<0B=0
 320 IF B>99B=99
 330 #(P+3)=B:CX=Sb51+8:CY=32
 340 PRINT #1,Bc10,".",RM:GOTO 230
 350 BOX 0,36,159,16,2:BOX #(P+1),#(P+2)+1,3,1,1
 360 GOSUB 280:K=Kc100:Y=RM:R=9
 370 X=-(XbBc100:A5+WcZ)/Y+YbBc100
 380 I=<#(P+1)-3b5:Sb10:J=#(P+2)b10:FOR N=15TO 15TEP -1:A(2)=32:A(23)=Nb16:NEXT
N
 390 U=Ic10:U=Jc10:BOX U,U,1,1,3
 400 K=UIL-U:Y=Y-G:I=I+X:J=J+Y:U=Ic10:U=Jc10:BOX K,L,1,1,3:BOX U,U,1,1,3:IF ABS(
U)>79BOX U,U,1,1,2:U=99:GOTO 430
 410 IF U<-40U=-40:GOTO 430
 420 IF (PX(U,U))+(U>2B)GOTO 400
 430 LINE U,U,4:FOR N=24TO 0STEP -16:A(23)=N:BC=RND (3)b13+86
 440 LINE U+RND (R)-Rc2-1,U+RND (R)-Rc2,2:NEXT N
 450 BC=7:T=0:E=(S#1)b5:U=#(E+1):V=#(E+2):FOR X=U-2TO U+2:FOR Y=V-2TO V+2:IF PX(
X,Y)T=1
 460 IF T>135-S:GOTO 170
 470 NEXT Y:NEXT X:IF R=9R=19:GOTO 430
 480 #(P)=#(P)+1:PRINT #5,#(0),"  DESTROYED",#(5)
 490 FOR N=0TO 3000:NEXT N:GOTO 20
 500 K=9900:RETURN
 510 K=9908:RETURN
 520 K=9817:RETURN
 530 K=9625:RETURN
 540 K=9334:RETURN
 550 K=9042:RETURN
 560 K=8650:RETURN
 570 K=8157:RETURN
 580 K=7664:RETURN
 590 K=7070:RETURN
```

b = multiply "x"
c = divide "÷"

This is a sample of the game programs we feature. (Bally BASIC videocade is required for all user-programmed items. List price is $50, sale on this flyer, $25,ppd.)

This picture was taken from the tv screen:



ARTILLERY DUEL is an intriguing game by John Perkins. The machine sets up a random ground and adds two gun emplacements. As each player's turn is taken, he adjusts the knob for barrel elevation, moves the joystick to add or reduce the number of powder bags (by whole bags sideways; by tenths, back and forth). Then when ready, pull the trigger. There is gravity and a random wind. Anyway, the gun recoils and there goes the shell. There is an explosion when it lands. A gun is destroyed when less than half a gun remains (the repair crew can replace a gun barrel) The program uses all available space - don't enter lines 3 & 4. Be sure to exercise the joystick to see how the variables work.

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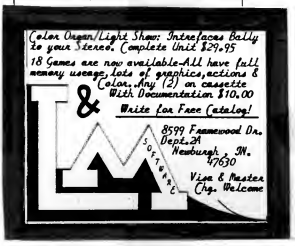

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